Complete Contents of the Proceedings of the Fourth International Conference on Electron Spectroscopy, ICES4, University of Hawaii, USA, 10-14 July 1989.

TABLE OF CONTENTS

Part A
Contents of Volume 51 (the first of two Conference volumes)

Foreword XVII

Obituary for Muhammad Salim Banna XIX

List of Participants XXI

Acidities of nitrophenols: Initial versus final-state effects and inductive versus resonance effects using chemical shifts and gas-phase acidities 1
M.R.F. Siggel, J. Holloway (Berkeley, CA, U.S.A.), M.L. Crenshaw, M.S. Banna (Nashville, TN, U.S.A.)

From X-ray to electron spectroscopy and new trends 11
K. Siegbahn* (Uppsala, Sweden)

Photoelectron holography = holography + photoelectron diffraction 37
J.J. Barton* (Yorktown Heights, NY, U.S.A.)

Aspects of inverse photoemission 55
N.V. Smith* (Murray Hill, NJ, U.S.A.)

Molecular orbital theory for the analysis of photoemission spectra 69
P.S. Bagus* (San Jose, CA, U.S.A.), D. Coolbaugh (Austin, TX, U.S.A), S.P. Kowalczyk (Yorktown Heights, NY, U.S.A.), G. Pacchioni, F. Parmigiani (Milan, Italy)

Correlation phenomena in the ionization of CN dimers 75
M.K. Scheller, H.G. Weikert, L.S. Cederbaum (Heidelberg, F.R.G.), F. Tarantelli (Perugia, Italy)

Optical potentials and damped one-electron functions in photoemission and electron scattering 91
L. Hedin (Lund, Sweden)

Bond-angle and bond-length dependence of bound-state resonances in inner-shell excitation spectra of SF_4 103
N. Kosugi (Kyoto, Japan), S. Bodeur (Paris, France), A. P. Hitchcock (Hamilton, Canada)

Theoretical interpretation of molecular Auger spectra 115
F.P. Larkins* (Hobart, Australia)

---

* **Invited paper**
† **Extended abstract**
Authors names are arranged according to their affiliation

Electron spectroscopy of adsorbates via autoionization of core-to-bound excited states: experiment and theory 149
G. Illing, T. Porwol, I. Hemmerich, G. Dömötör, H. Kuhlenbeck, H.-J. Freund (Bochum, F.R.G.), C.-M. Liegener (Erlangen, F.R.G.), W. von Niessen (Braunschweig, F.R.G.)

Wave function of graphite surface studied by metastable atom electron spectroscopy 167
S. Masuda, H. Hayashi, Y. Harada (Tokyo, Japan)

Low-energy satellite lines in photoelectron spectra. How low is it possible? 173
W. Wardermann, W. von Niessen (Braunschweig, F.R.G.)

Photoionization cross-section calculations for atomic lithium 183
G.B. Armen, B.I. Craig, F.P. Larkins, J.A. Richards (Hobart, Australia)

Multicentered interactions in carbonyl bridged dimers by UV-PE spectroscopy and DV-Xα quantum mechanical calculations 197
G. Granozzi, M. Dal Colle (Padova, Italy), M. Casarin (Potenza, Italy)

On the Auger spectrum of ethylene 211
E. Ohrendorf, H. Koeppel, L.S. Cederbaum (Heidelberg, F.R.G.), F. Tarantelli, A. Sgamellotti (Perugia, Italy)

Auger decay and autoionization of core hole excited states in molecular oxygen 221
D. Lapiano-Smith, K. Lee, C.I. Ma, K.Wu, D.M. Hanson (Stony Brook, NY, U.S.A.)

Systematic analysis of 3d core photoemission spectra in rare earth oxides 229
A. Kotani, T. Ikeda, K. Okada, H. Ogasawara (Sendai, Japan)

The $^2\pi_g$ shape resonance of N_2 near a metal surface and in rare gas solids 237
M. Michaud, L. Sanche (Sherbrooke, Canada)

Magnetism and chemisorption 249
P.D. Johnson* (Upton, NY, U.S.A.)

Spin- and angle-resolved photoemission from single crystals and epitaxial films using circularly polarized synchrotron radiation 263
C.M. Schneider, P. Bressler, P. Schuster, J. Kirschner (Berlin, F.R.G.), J.J. de Miguel, R. Miranda (Madrid, Spain)

Spin-polarized photoelectron diffraction: A probe of short-range magnetic order 275
B. Hermsmeier* (Honolulu, HI, U.S.A.)

Spin-resolved inverse photoemission study on the temperature behavior of a "magnetic" band in nickel 283
M. Donath, V. Dose (Garching, F.R.G.) †

Spin polarized Auger spectroscopy from magnetically ordered solids 287
M. Landolt* (Zurich, Switzerland) †

Capture and emission of spin-polarized electrons to study surface magnetism and critical behavior 291
C. Rau, K. Waters, N. Chen (Houston, TX, U.S.A.)

Spin-polarized EELS of surfaces 301
H. Hopster*, D.L. Abraham, D.P. Pappas (Irvine, CA, U.S.A.)

A novel SEM with spin polarization analysis 315
R. Browning, T. VanZandt, C.R. Helms (Stanford, CA, U.S.A.),
H. Poppa (San Jose, CA, U.S.A.), M. Landolt (Zurich, Switzerland)

High resolution imaging of magnetic domain wall structures using a new spin polarized electron microscope 321
T. VanZandt, R. Browning, C.R. Helms (Stanford, CA, U.S.A.),
H. Poppa (San Jose, CA, U.S.A.), M. Landolt (Zurich, Switzerland)

Characteristics of a source and detector of spin polarized electrons 331
C. Ranganathaiah, J.L. Robins, A.L. Yates, W.C. Macklin,
R.A. Anderson, J.F. Williams (Nedlands, Australia)

Multiphoton studies of molecular autoionization 339
J.L. Dehmer*, P.M. Dehmer, S.T. Pratt, F.S. Tomkins (Argonne, IL, U.S.A.),
M.A. O'Halloran (Norman, OK, U.S.A.)

Photoelectron spectroscopy of autoionization and dissociation in molecular chlorine using resonance enhanced multiphoton ionization 363
C.A. de Lange, B.G. Koenders, S.M. Koeckhoven (Amsterdam, The Netherlands)

Dynamic screening effects observed in the de-excitation of core electron excited states in molecules 373
W. Eberhardt (Annandale, NJ, U.S.A.), R. Dudde, M.L.M. Rocco, E.E. Koch,
S. Bernstorff (Berlin, F.R.G.)

Application of MPI photoelectron spectroscopy to excited molecules. Use of tunable VUV laser radiation 383
K. Kimura*, M. Takahashi, K. Okuyama, I. Plazibat (Okazaki, Japan)

Parity-unfavored transitions in resonant photoemission from Ar, Kr, and Xe: Experimental and theoretical results 397
J.W. Cooper (College Park, MD, U.S.A.),
D.W. Lindle (Gaithersburg, MD, U.S.A.),
T.A. Carlson, D.R. Mullins (Oak Ridge, TN, U.S.A.), C.F. Beall, B.W. Yates
J.W. Taylor (Madison, WI, U.S.A.), F.A. Grimm (Knoxville, TN, U.S.A.)

Autoionization of the Ar, K, and Ca $2p^5s$, 3d resonances: Validity of the spectator model 407
M. Meyer, E. von Raven, M. Richter, B. Sonntag (Hamburg, F.R.G.),
J.E. Hansen (Amsterdam, The Netherlands)

Coreionization energies and chemical properties 417
T.D. Thomas* (Corvallis, OR, U.S.A.),
M.R.F. Siggel (Berkeley, CA, U.S.A.), L.J. Saethre (Tromso, Norway)

Ligand and structure effects on the N-P bonds of phosphazenes 439
L.S. Dake, D.R. Baer, K.F. Ferris, D.M. Friedrich (Richland, WA, U.S.A.)

XPS satellite structure of nickel complex compounds as an analytical tool for studies of ground state properties 459
A. Meisel, R. Szargan, I.Uhlig, K.H. Hallmeier, J. Reinhold, (Leipzig, G.D.R.)
M. Casarin (Padova, Italy)

Carbon and oxygen KLL and sulfur LMM Auger spectra of OCS 471
T.X. Carroll (Keuka Park, NY, U.S.A),
D. Ji, T.D. Thomas (Corvallis, OR, U.S.A.)

Photoelectron spectroscopy of unstable molecules 487
J. Baker, M. Barnes, M.C.R. Cockett, J. M. Dyke*, A.M. Ellis, M. Fehér,
E.P.F. Lee, A. Morris, H. Zamanpour (Southampton, U.K.)

High temperature and high resolution UV photoelectron spectroscopy using supersonic molecular beams 513
L.-S. Wang, B. Niu, Y.T. Lee, D.A. Shirley (Berkeley, CA, U.S.A.),
J.E. Reutt-Robey (College Park, MD, U.S.A.)

Angle-resolved photoelectron spectroscopy of the acetylene valence levels using undulator radiation 527
A. Koch, M. Schmidbauer, J. Feldhaus, K.Y. Randall,
A.M. Bradshaw (Berlin, F.R.G.) †

Chemielectron spectroscopy of some metal oxidation reactions 529
M.C.R. Cockett, J.M. Dyke, A.M. Ellis, M. Feher, T.G. Wright
(Southampton, U.K.)

Auger electron spectra of Ca metal and CaO 555
I.J. Vayrynen, J. Leiro, M.H. Heinonen (Turku, Finland)

A^3B^5 cleaved surfaces covered by Ag at 10-300 K 565
V.A. Grazhulis* (Moscow, U.S.S.R.)

Investigation of interface states and Fermi level pinning mechanisms with metals on InP(110) surfaces 581
R. Cao, K. Miyano, I. Lindau, W.E. Spicer (Stanford, CA, U.S.A.)

CdTe(110) surface electronic states 591
B.A. Orlowski (Warsaw, Poland), C. Janowitz, L. Kipp, R. Manzke
(Kiel, F.R.G.)

Initial states of epitaxial semiconductor-insulator heterointerface formation 599
M.A. Olmstead* (Berkeley, CA, U.S.A.), R.D. Bringans (Palo Alto, CA, U.S.A.)

Electronic structure of epitaxial α-Sn_{1-x} Ge_x alloys 613
H. Höchst, M.A. Engelhardt (Stoughton, WI, U.S.A.),
I. Hernández-Calderón (Mexico City, Mexico)

Synchrotron radiation photoemission study of the electronic structure of the filled tetrahedral semiconductors LiZnAs and LiZnP 623
A.J. Nelson (Golden, CO, U.S.A.), M Engelhardt,
H. Hochst (Stoughton, WI, U.S.A.)

Recent developments in electron momentum spectroscopy of atoms and molecules 629
E. Weigold* (Bedford Park, Australia)

Inner-shell electron energy loss spectroscopy of organometallic compounds 653
A.P. Hitchcock, A.T. Wen, E. Ruhl (Hamilton, Canada)

Extended fine structure of gases by inelastic electron scattering 661
B.P. Hollebone, A.T. Wen, T. Tyliszczak, A.P. Hitchcock (Hamilton, Canada)

Photoemission and He-atom scattering from Xe adsorbed on Al (332) 673
B.J. Hinch, A. Lock, H.H. Madden, J.P. Toennies, G. Witte (Gottingen, F.R.G.)

Final-scale effects in photoelectron diffraction 689
D.Y. Friedman, C.S. Fadley (Honolulu, HI, U.S.A)

Electronic and magnetic structure of epitaxial Fe and Co monolayers on Au (100) by spin-polarized photoelectron spectroscopy 701
W. Heinen, C. Carbone, T. Kachel, W. Gudat (Jülich, F.R.G.)

Author index (Part A) **713**
Subject index (Part A) **717**

Part B
Contents of Volume 52 (the second of two Conference volumes)

Core-level line shapes of adsorbates: Effects of electronic and vibrational excitations 1
N. Mårtensson*, A. Nilsson (Uppsala, Sweden)

Core level line widths of metallic systems 47
A. Stenborg, O. Björneholm, A. Nilsson, N. Mårtensson (Uppsala, Sweeden), J.N. Anderson (Lund, Sweden) †

Inverse photoemission study of copper at variable photon energy 49
C. Lange, T. Mandel, C. Laubschat, G. Kaindl (Berlin, F.R.G.)

Electronic structure of Pd/Ag surface alloys 61
K.C. Prince, V. Cháb (Julich, F.R.G.)

The Sm/Si(110) interface studied by electron spectroscopy 67
J. Onsgaard, F. Orskov (Odense, Denmark), J. Ghijsen (Groningen, The Netherlands), R.L. Johnson (Hamburg, F.R.G.), I. Chorkendorff (Lyngby, Denmark), F. Grey (Roskilde, Denmark)

Oxidation of alkali/GaAs(110) interfaces 79
G. Remmers, M. Prietsch, C. Laubschat, M. Domke, T. Mandel, J. Ortega, G. Kaindl (Berlin, F.R.G.)

Electronic structure, orientation and symmetry of benzene and benzene coadsorbed with CO or NO on Ni(111) and Ru(001) 91
H.P. Steinruck, P. Heimann, W. Huber, P. Jakob, T. Pache, D. Menzel (Garching, F.R.G.)

Si-noble metal (Au, Cu, Ag) interface formation studied by AES 103
V.K. Adamchuk, A.M. Shikin (Leningrad, U.S.S.R.)

LEELS study of the formation of the Ag-semiconductor (Si. Ge. A^3B^5) interface at 10 K 113
V.Yu. Aristov, I.L. Bolotin, V.A. Grazhulis, V.M. Zhilin (Moscow, U.S.S.R.)

XPS study of metal/SiO_x/Si interfaces 121
Z.X. He, J.F. Zheng, W. Pong (Honolulu, HI, U.S.A.)

Selective observation of Si(111) surface states studied by metastable atom electron spectroscopy 127
H. Ishii, S. Masuda, Y. Harada (Tokyo, Japan)

Photoemission studies of the GaAs(100) 4x1 surface 133
K. Kanski, H. Qu, P.O. Nilsson (Goteborg, Sweden), U.O. Karlsson (Lund, Sweden)

Epitaxial growth of MnTe on CdTe (100) 139
D.W. Niles (Stuttgart, F.R.G.), H. Höchst, M.A. Engelhardt (Stoughton, WI, U.S.A.)

Valence bands and surface states of CdTe(110) 149
H. Qu, J. Kanski, P.O. Nilsson (Göteborg, Sweden), U.O. Karlsson (Lund, Sweden)

On the problem of the core level shifts at (110) surfaces of III-V semiconductor compounds 155
P. Rodriguez-Hernández, A. Muñoz (Tenerife, Spain)

Low temperature adsorption of O_2 on Pt(111) 161
J. Grimblot (Villeneuve d'Ascq, France), A.C. Luntz, D.E. Fowler (San Jose, CA, U.S.A.)

XPS investigation on low-temperature adsorption and thermal desorption of N_2O on Ag(111) 175
R.J. Behm (Munich, F.R.G.), P. Alnot (Orsay, France), J. Grimblot (Villeneuve d'Ascq, France), C.R. Brundle (San Jose, CA, U.S.A.)

An AES study of the initial oxidation of Ni (110) and the influence of Al in clean NiAl 185
R.H. Roberts, J.A. Ramsey (Newcastle, Australia)

Scatter diagrams and Hotelling transforms: Application to surface analytical microscopy 197
M. Prutton*, M.M. El Gomati, P.G. Kenny (York, U.K.)

Electron attenuation lengths at SiO_2/Si interfaces 221
J.A. Yarmoff, S.A. Joyce (Gaithersburg, MD, U.S.A), E. Cartier, F.R. McFeely (Yorktown Heights, NY, U.S.A.)

Extensions to computer programs for quantitative surface analysis 229
P.A. Moir, A.G. Fitzgerald, B.E. Storey (Dundee, U.K.)

Inelastic background correction and quantitative surface analysis 243
S. Tougaard* (Odense, Denmark)

Theoretical aspects for depth profiling by ARXPS 273
M. Seelmann-Eggebert, H. J. Richter (Freiburg, F.R.G.)

Electron inelastic mean free paths in solids at low energies 285
S. Tanuma (Saitama, Japan), C.J. Powell, D.R. Penn (Gaithersburg, MD, U.S.A.)

Binding energies and reference levels in photoelectron spectroscopy 293
S.E. Anderson, G. L. Nyberg (Bundoora, Australia)

Factor analysis of angle-dependent XPS Si 2p spectra from dry processed Si wafers 303
J.F. Moulder, D.G. Watson, W.F. Stickle (Eden Prairie, MN, U.S.A.)

High energy spectroscopic studies of the electronic structure of high T_c materials 311
J.C. Fuggle* (Nijmegen, The Netherlands) †

Multiplet structure in core-level XPS of high Tc material 313
La_2CuO_4 and related Cu compounds
K. Okada, A. Kotani (Tohoku, Japan)

Core and valence XPS spectra of clean, cleaved single crystals of $Y_1Ba_2Cu_3O_7$ 323
D.E. Fowler, C.R. Brundle, J. Lerczak (San Jose, CA, U.S.A.), F. Holtzberg (Yorktown Heights, NY, U.S.A.)

Understanding electronegativity effects in core-level electron spectroscopies: application to the high temperature superconductors 341
D.E. Ramaker (Washington, DC, U.S.A.)

XPS study of water vapour effect on high T_c superconductor surface 355
V.I. Nefedov, A.N. Sokolov, M.A. Tyzykhov, N.N. Oleinikov, Y.A. Yeremina, Y.D. Tretyakov (Moscow, U.S.S.R.)

The Fermi surfaces and band dispersion of $YBa_2Cu_3O_{6.9}$ as seen by angle-resolved photoemission 363
J.-C. Campuzano, G. Jennings, M. Faiz, L. Beaulaigue, J.Z. Liu, B.W. Veal, A.P. Paulikas (Argonne, IL, U.S.A.), K. Vandervoort, H. Claus (Chicago, IL, U.S.A.), R.S. List, A.J. Arko, R.J. Bartlett (Los Almos, NM, U.S.A.), C. Olson, A. B. Yang, R. Liu, C. Gu (Ames, IA, U.S.A.)

Investigation of electronic structures of high-T_c compounds 375
$La_{1.85}Sr_{0.15}CuO_4$, $YBa_2Cu_3O_{7-x}$, $Bi_2Sr_2CaCu_2O_8$: LEELS studies
V.A. Grazhulis, A.M. Ionov (Moscow, U.S.S.R.)

The high-T_c superconductivity in the d-p electron system 385
V.A. Ivanov (Moscow, U.S.S.R.)

Inhomogeneous charging problem in XPS measurements of surface contaminated high-T_c superconducting material 395
L.Z. Zhao (Beijing, China)

Thermal stability and hydrolytic properties of the as-received high-T_c superconductor studied by XPS 405
L.Z. Zhao, D.B. Zhu, D.J. Cheng, Y.X. Hu, D.L. Yang, J.B. Zhang, P.J. Wu, K.Z. Gno (Beijing, China)

XPS study of copper dispersion in $CuOAl_2O_3$ catalysts 415
V. Di Castro, C. Furlani (Rome, Italy), M. Gargano, N. Ravasio (Bari, Italy), M. Rossi (Milan, Italy)

Electron spectroscopy of polymers 423
J.J. Pireaux*, J. Riga, P. Boulanger, P. Snauwaert, Y. Novis, M. Chtaib, C. Gregoire, F. Fally, E. Beelen, R. Caudano, J. Verbist (Namur, Belgium)

XPS study of the surface reaction between Au and Ar^+ ion treated polyimide 447
H.S. Jeong, R.C. White (New York, NY, U.S.A.)

ADXPS/STEM studies of surface and bulk microphase behavior in block and graft copolymers and their blends 457
D.W. Dwight (Bethlehem, PA, U.S.A.), J.E. McGrath, J.S. Riffle, G.A. York (Blacksburg, VA, U.S.A.), S.D. Smith (Miami Valley, OH, U.S.A.)

Electron spectroscopy and electron microscopy of a-C:H films 475
A.E. Henderson, A.G. Fitzgerald, B.E. Storey (Dundee, U.K.), D.S. Rickerby (Abingdon, U.K.)

XPS: A routine technique to characterize surface of practical catalysts? 485
J. Grimblot, L. Gengembre, A. D'Huysser (Villeneuve d' Ascq, France)

Oxide overlayers and the superconducting RF properties of yttrium-processed Nb 511
F.L. Palmer (Ithaca, NY, USA), R.E. Kirby, F.K. King, E.L. Garwin (Stanford, CA, U.S.A.) †

Quantum yield of the X-ray photoelectric effect in negative electron affinity emitters 513
A.L. Andrushchenko, V.N. Shchemelev, G.B. Stuchinskii, A.I. Klimin, V.K. Chevokin, A.M. Prokhorov (Moscow, U.S.S.R.)

The energetic characteristics of the X-ray photocathodes 529
A.M. Prokhorov, V.K. Chevokin, V.N. Shchemelev (Moscow, U.S.S.R.)

X-ray photoelectron study of Al-Mn alloys 541
A.R.Chourasia, D.R. Chopra (Commerce, TX, U.S.A.),

Valence electronic structure of polystyrenes with different tacticities: How to go (or not to go) too far? A joint theoretical and experimental approach 551
E. Orti (Valencia, Spain), J.L. Bredas (Mons, Belgium), J.J. Pireaux (Namur, Belgium), N. Ishihara (Chiba, Japan)

XPS studies of oxide films on transition metals 571
L.Z. Zhao, S.H. Liu, D.H. Wang, C.H. Pan (Beijing, China)

Evidence of reacting iodine species at the surface of a polyphenylacetylene film investigated by XPS 581
G. Polzonetti, A. Furlani, M.V. Russo (Rome, Italy),
A.M. Camus, N. Marsich (Trieste, Italy)

TSC and PL spectroscopic studies of polyacetylene 589
Y. Renkuan, H. Zhenchun, W. Yongsheng, Z. Youdou (Nanjing, China),
C. Yang, S. Hecai (Suzhou, China), T. Wengguo, S. Xuechu (Shanghai, China)

Photoelectron spectroscopy of excited molecular states 597
V. McKoy*, H. Rudolph, M. Braunstein, J.A. Stephens (Pasadena, CA, U.S.A.)
S.N. Dixit (Livermore, CA, U.S.A.), D.L. Lynch (Reno, NV, U.S.A.),

Information on structure and photoemission dynamics of molecular adsorbates from circular dichroism in photoemission 613
C. Westphal, J. Bansmann, M. Getzlaff, G. Schönhense (Bielefeld, F.R.G.)

Photodissociation of core excited molecules 623
I. Nenner*, P. Morin, P. Lablanquie, M. Simon, N. Levasseur, P. Millié
(Gif sur Yvette, France)

Photoelectron-photoelectron coincidence spectroscopy 649
S.D. Price, J.H.D. Eland (Oxford, U.K.)

Photoelectron dynamics of HI ionized by coherent VUV radiation 661
A. Mank, M. Drescher, T. Huth-Fehre, G. Schönhense
N. Bowering, U. Heinzmann (Bielefeld, F.R.G.)

Threshold photoelectron spectrum of the argon 3s satellites 671
L.J. Medhurst, A.S. von Wittenau, R.D. van Zee, S. Zhang, S.H. Liu,
D.A. Shirley (Berkeley, CA, U.S.A.), D.W. Lindle (Gaithersburg, MD, U.S.A.)

Electron-electron coincidence studies of the decay of photoexcited rare gas core resonances 677
E. von Raven, M. Meyer, M. Pahler, B. Sonntag (Hamburg, F.R.G.)

Lifetimes of the $3^{1,3}P$ and $3^{1,3}D$ states of helium 689
A.B. Wedding, A.G. Mikosza, J.F. Williams (Nedlands, Australia)

Zero-kinetic-energy photoelectron-photoion coincidence measurements of Ar in the 2p and N_2 in the 1s region 697
W. Habenicht, K. Muller-Dethlefs, E.W. Schlag (Garching, F.R.G.)

Valence core excited states and multielectron effects in the photoabsorption spectrum of $Si(CH_3)_x Cl_{4-x}$ molecules, near the silicon and chlorine K edges 711
J.L. Ferrer, S. Bodeur, I. Nenner (Orsay, France)

Angle-resolved electron stimulated desorption of metastable atoms from solid argon 725
G. Leclerc, A.D. Bass, M. Michaud, L. Sanche (Sherbrooke, Canada)

UPS of thiols and disulfides adsorbed on Cu(410): CH_3SH, C_2H_5SH, C_3H_7SH, $(CH_3S)_2$, $(C_2H_5S)_2$, $(C_3H_7S)_2$ 735
S.E. Anderson, G.L. Nyberg (Bundoora, Australia)

A new ESCA instrument with improved surface sensitivity, fast imaging properties and excellent energy resolution 747
U. Gelius*, B. Wannberg, P. Baltzer, H. Fellner-Feldegg, G. Carlsson, C.-G. Johansson, J. Larsson, P. Münger, G. Vegerfors (Uppsala, Sweden)

A new multidetection spectrometer for studies of angle-resolved electron distributions 787
D. Roy, D. Tremblay, B. Tremblay (Quëbec, Canada)
D. Dubé (Hall, Canada)

Core level photoelectron microscopy 797
P. Pianetta*, P.L. King, A. Borg, C. Kim, R. Browning, I. Lindau (Stanford, CA, U.S.A.), G. Knapp, M. Keenlyside (Mountain View, CA, U.S.A.)

Investigation of surfaces by scanning photoemission microscopy 811
H.H. Rotermund, S. Jakubith, S. Kubala, A. von Oertzen, G. Ertl (Berlin, F.R.G.),

Escascope- a new imaging photoelectron spectrometer 821
P. Coxon, J. Krizek, M. Humpherson I.R.M. Wardell (East Grinstead, U.K.)

Performance of electron spectroscopies from the point of view of EELS and Auger microscopies 837
J. Cazaux* (Reims, France), C. Colliex (Orsay, France)

Angle resolved photoemission using a toroidal energy analyzer 855
R. Leckey, J.D. Riley, A. Stampfl (Bundoora, Australia)

An interelectrode distance dependent fringing field correction for the hemispherical deflector analyzer 867
P. Louette, P.A. Thiry, R. Caudano (Namur, Belgium),
A. Delage (Ottawa, Canada), D. Roy (Quebec, Canada)

Author index (Part B) **875**
Subject index (Part B) **879**